

Which represent the observations as follows:—

	Calcul.	—	Observ.
	$\Delta \alpha \cos \delta$		$\Delta \delta$
1846. May 1	— 1"4		+ 1"9
4	— 0.8		+ 25.1
5	+ 0.0		+ 30.7
10	+ 8.8		+ 9.5
13	+ 9.0		— 2.3
14	— 0.4		+ 10.7
17	+ 6.5		+ 6.2
18	+ 1.6		+ 1.5
21	+ 3.5		+ 1.5
22	+ 11.5		+ 0.5
29	+ 7.6		+ 9.2
June 4	+ 3.2		— 0.2
5	+ 3.2		+ 1.6

M. Wichmann believes that the great errors, May 4, 5, are caused by the proximity of the comet.

It appears that a closer approximation might have been obtained, which, however, at this time does not appear necessary.

As the comet will probably soon be again visible and continue to be so for some time (the distance from the earth decreases during some months), M. Wichmann has calculated this ephemeris for 12^h Berlin mean time, corrected from mean equinox 1846.0.

	R.A. Comet.	Decl. Comet.	Log. Dist. from Earth.
1846. July 15	99 30' 57".3	+ 23 58' 15".8	0.29762
19	99 3 23.8	22 59 8.0	0.30217
23	98 36 11.8	22 0 57.0	0.30507
27	98 8 36.2	21 3 16.2	0.30647
31	97 39 52.0	20 5 40.3	0.30649
Aug. 4	97 9 15.8	19 7 45.1	0.30525
8	96 36 4.7	18 9 7.1	0.30284
12	95 59 34.6	17 9 22.8	0.29935
16	95 18 58.6	16 8 9.0	0.29486
20	94 33 26.3	+ 15 5 2.6	0.28945

Occultation of *Mars* by the Moon on Feb. 1, 1846. By W. Luff, Esq.

The observation was made at Oxford, in latitude $51^{\circ} 45' 10''$ N., and longitude $5^{\text{m}} 1^{\text{s}}.2$ West. The evening was generally unfavourable; but just before the immersion the sky became much clearer, and Mr. Luff thinks the error of the observation cannot exceed half the beat of a chronometer, or $0^{\text{s}}.2$. The emersion was not so well observed, as the moon was obscured by clouds, which only cleared away just as the limb of *Mars* appeared to touch the bright limb of the moon.

Total immersion	^h 9 ^m 57 ^s 37.6	Oxford M.T.
— emersion	10 17 38	

The telescope employed was 4.2 inches focal length and 2.6 inches aperture; power 50.

The time was got by equal altitudes of the sun on Feb. 1, and by an absolute altitude of both limbs on Feb. 2, with an eight-inch sextant by Troughton, and an oil horizon: the chronometer has a very steady rate.

Occultation of β *Scorpii* by the Moon, observed by R. Snow, Esq. at Ashurst, May 11, 1846:—

		Ashurst Sid. Time.		
		h	m	s
Immersion of small star at moon's bright limb	—	15	39	37.5
— large star	—	15	40	4
Emersion of large star at moon's dark limb	—	16	34	1
— small star	—	16	34	41

The moon not far from full; in other respects the circumstances very favourable.

Ashurst Observatory. Latitude, $51^{\circ} 15' 58''$ N.; Longitude, $1^{\text{m}} 10^{\text{s}}.1$ West.

At the request of the Council, the Astronomer Royal gave an account of the measurement of an arc of longitude between Greenwich and the Island of Valentia, on the south-west coast of Ireland.*

The Astronomer Royal begun by stating that he had for many years intended to determine this arc of longitude, since such measurements are highly important in the investigation of the figure of the earth; and the configuration of the British Islands renders them peculiarly favourable for the purpose. The difference between the easternmost point of England and the westernmost point of Ireland is nearly $12^{\circ} 12'$ in longitude, and, what is very important, this greatest extent lies nearly in an arc of parallel. There is some room for choice as to the station on the west coast of Ireland, but, after a careful personal inspection, the Astronomer Royal selected a point in the Island of Valentia as the most appropriate. This point is a station in the trigonometrical survey, and, from the features of the country, apparently less liable to local disturbance than any other. It is in the vicinity of a harbour, which is now tolerably frequented, and may become more so; and it is nearly in the parallel of Harwich, itself also a seaport of importance. Besides these advantages, as the island of Valentia is the property and summer residence of the Right Hon. Maurice Fitzgerald, Knight of Kerry, that gentleman's countenance, assistance, and hospitality, were confidently reckoned upon, and, it need scarcely be added, as fully experienced. At present, that portion of the arc which lies between Valentia and Greenwich has been measured; the remainder of the

* A paper containing the detailed account of all the observations, computations, and results of this interesting work, was presented to the Society by the Astronomer Royal, and will be printed in the *Memoirs*, the Lords Commissioners of the Admiralty liberally defraying the expense. The satisfaction expressed by the members present with the lucid exposition of the Astronomer Royal, has induced the secretary to attempt to follow the lecture rather than to analyse the work itself according to the usual custom.